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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,047	09/06/2006	Stephen Geoffrey Lipson	P-8277-US	6894

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EXAMINER	
CHAPEL, DEREK S	

ART UNIT	PAPER NUMBER
2872	

MAIL DATE	DELIVERY MODE
10/27/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,047	LIPSON ET AL.	
	Examiner	Art Unit	
	DEREK S. CHAPEL	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7,15-18 and 21* is/are rejected.

7)☒ Claim(s) *5,6,8-14,19,20 and 22-28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 October 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status Of Claims

1. This Office Action is in response to an amendment received 6/18/2009 in which Applicant lists claims 2-14 and 16-28 as being original and claims 1 and 15 as being currently amended. It is interpreted by the examiner that claims 1-28 are pending.

2. It is noted that although claims 29 and 30 were not listed, they should have been listed as cancelled. Therefore, applicant is reminded that a complete listing of the claims must be included or the amendment can be held as non-compliant.

Response to Amendment

3. It is noted by the examiner that the amendments to the abstract and specification set forth in the response received 6/18/2009 are not in compliance with 37 CFR 1.121(a) and 1.121(b) and therefore the objections to the drawings and specification have been repeated below.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 12 is not shown in figure 4a. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "12" has been used to designate both a "parallel beam of light" and an "external reflector". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The abstract of the disclosure is objected to because "comprises" should be changed to --includes--. Correction is required. See MPEP § 608.01(b).

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The disclosure is objected to because of the following informalities: on line 4 of page 8 of the specification, "12and for reflector 14" should be changed to --12 and for reflector 14-- and on line 9, "14rather" should be changed to --14 rather--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-4 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Rogers, U.S. Patent Number 3,631,288 (hereafter Rogers).

11. As to claim 1, Rogers discloses an apparatus for providing a light beam with spatially varying polarization (see at least figure 2; it is noted that a vertical plane taken just to the left of reflective polarizer 24 would include a beam having a plurality of sections of light with different polarizations (i.e. spatially varying polarization)), the apparatus comprising:

two circumferentially curved reflectors positioned substantially opposite each other (see at least figure 2, elements 12 and 64),

a polarizer positioned in an optical path between the two reflectors (see at least figure 2, element 24), for polarizing light reflected from one reflector before it reaches the other (see at least figure 2);

whereby a non-polarized light beam incident along a given axis on one of the reflectors (see at least figure 2, element 66) is radially reflected off that reflector (see at least figure 2, element 12), acquires predetermined polarization from the polarizer (see at least figure 2, element 66e) and is then reflected off the second reflector to produce an outgoing light beam of spatially varying polarization (see at least figure 2, element 64).

12. As to claim 2, Rogers discloses that the two reflectors comprise a diverging reflector and a converging reflector (see at least figure 2, elements 12 and 64).

13. As to claim 3, Rogers discloses that the two reflectors comprise two converging reflectors (it is noted that comprising is open language and the second reflector 64 also has a converging reflector 62 making up its back side).

14. As to claim 4, Rogers discloses that the two reflectors are spherical (see at least figure 2, elements 12 and 64; it is noted that both elements are circular when viewed from the front and therefore are spherical in the same way the applicant's two reflectors are spherical).

15. As to claim 15, the method steps claimed would have necessarily resulted from the claimed apparatus limitations recited in claim 1, based on the rejection of claim 1 for the reasons set forth above.

16. As to claim 16, the method steps claimed would have necessarily resulted from the claimed apparatus limitations recited in claim 2, based on the rejection of claim 2 for the reasons set forth above.

17. As to claim 17, the method steps claimed would have necessarily resulted from the claimed apparatus limitations recited in claim 3, based on the rejection of claim 3 for the reasons set forth above.

18. As to claim 18, the method steps claimed would have necessarily resulted from the claimed apparatus limitations recited in claim 4, based on the rejection of claim 4 for the reasons set forth above.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 1, 7, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogers, U.S. Patent Number 3,631,288 (hereafter Rogers).

23. As to claim 1, Rogers discloses an apparatus for providing a light beam with spatially varying polarization (see at least figure 1; it is noted that a vertical plane taken just to the left of reflective polarizer 24 would include a beam having a plurality of sections of light being different polarizations (i.e. spatially varying polarization)), the apparatus comprising:

a polarizer positioned in an optical path (see at least figure 1, element 24), for polarizing light reflected from the reflector (see at least figure 1);

whereby a non-polarized light beam incident along a given axis on the reflector (see at least figure 1, element 40) is radially reflected off that reflector (see at least figure 1, element 12), acquires predetermined polarization from the polarizer (see at least figure 1, element 40e) and then forms a light beam of spatially varying polarization (see at least figure 1).

Figure 1 of Rogers does not specifically disclose two circumferentially curved reflectors positioned substantially opposite each other.

However, Rogers does teach a parabolic reflector (see at least figure 1, element 12) that, when medially bisected in a longitudinal direction, can reasonably be viewed as being equivalent to a first and second reflector.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus and method teachings of Rogers such that the unitary parabolic reflector taught by Rogers is comprised of two separate mirrors for the purpose of allowing the two mirror halves to be separated to access the internal components of the apparatus.

24. As to claim 7, Rogers discloses that the two reflectors are paraboloidal, with a common focus (see at least figure 1, element 12 as well as column 2, lines 47-50 of Rogers).

25. As to claim 15, the method steps claimed would have necessarily resulted from the claimed apparatus limitations recited in claim 1, based on the rejection of claim 1 for the reasons set forth above.

26. As to claim 21, the method steps claimed would have necessarily resulted from the claimed apparatus limitations recited in claim 7, based on the rejection of claim 7 for the reasons set forth above.

Allowable Subject Matter

27. Claims 5-6, 8-14, 19-20, and 22-28 are objected to as being dependent upon a rejected base claim, but would be allowable over the cited art of record, if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for at least the reasons cited in the non-final office action mailed 12/24/2008.

Response to Arguments

28. Applicant's arguments filed 6/18/2009 have been fully considered but they are not persuasive.

29. With respect to Applicant's argument that the polarizer of Rogers is not positioned in an optical path between the two reflectors is not persuasive. The path light takes in traversing an optical system is often called the optical path and the light of Rogers is emitted from the light source, strikes the first reflector (see at least figure 2, elements 12 and 14), strikes the polarizer (see at least figure 2, element 24) and then is incident on the second reflector (see at least figure 2, element 64). Therefore, the polarizer is clearly "positioned in an optical path between the two reflectors".

Conclusion

30. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEREK S. CHAPEL whose telephone number is (571)272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. C./
Examiner, Art Unit 2872
10/15/2009